

REMARKS/ARGUMENTS

Favorable reconsideration of this application is respectfully requested.

Initially, applicants note the returned form PTO-1449 for the previously submitted Information Disclosure Statement (IDS) did not indicate consideration of certain references as copies were not submitted. In reply applicants note those references were cited in the parent of the present application, on which the present application is a continuation. As those references were cited and considered in the parent of the present application applicants believe it was not necessary to submit copies of the references in the present application, and that consideration of all of the cited references is proper. Thereby applicants respectfully request a new form PTO-1449 be provided indicating consideration of all the references cited in the previously submitted IDS.

Claims 1-6 are pending in this application. Claim 7 is canceled without prejudice. Claims 1-7 were rejected under 35 U.S.C. § 112, second paragraph. Claims 1-6 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. patent 5,617,312 to Iura et al. (herein “Iura”) in view of U.S. patent 6,100,538 to Ogawa. Claim 7 was rejected under 35 U.S.C. § 102(b) as clearly anticipated by Iura.

Addressing first the rejection of claims 1-7 under 35 U.S.C. § 112, second paragraph, that rejection is traversed by the present response.

Each of the claims is amended by the present response to clarify the language therein. Specifically, independent claims 1 and 3 now delete the language noted as unclear thereon, and claim 4 is amended to now refer to “cameras” as suggested in the Office Action.

In view of the presently submitted amendments, each of the claims is believed to be in full compliance with all requirements under 35 U.S.C. § 112, second paragraph.

Addressing now the prior art rejections, those rejections are traversed by the present response.

Independent claim 1 now further recites “calculating angles of views of each of the at least two cameras to the detected positions” and “calculating coordinates of the predetermined object on the display panel utilizing the calculated angles”. That subject matter is fully supported by the original specification for example in Figures 3 and 4 and the corresponding description in the specification. The other pending independent claims are similarly amended.

The features recited in the independent claims are believed to distinguish over the applied art.

Independent claim 1 now recites:

detecting, based on outputs from the at least one camera, a motion of the predetermined object while the predetermined object is determined to be within a predetermined distance from the plane;
calculating angles of views of each of the at least two cameras to the detected position; and
calculating coordinates of the predetermined object on the display panel utilizing the calculated angles.

The other pending independent claims recite similar features.

According to the present invention, output signals of two or more cameras provided at corners of a display are utilized to calculate angles of views of each of the at least two cameras to a detected position of an object, when the object is within a predetermined distance from the plane of the display. Then, based on the detected position of the predetermined object and the calculated angles, a coordinate (x, y) of the object is calculated.

Accordingly, the claimed invention can conduct an inputting of coordinate data when the predetermined object is within a predetermined distance from the plane of a display, by which the claimed invention can realize an improved detecting precision.

In contrast to the claimed features, in Iura only one camera is used to take an image of a person and an object (the person's hand) is extracted from the taken image. Then, a

position of the extracted object in horizontal and vertical directions in the image is detected, and a cursor is moved on a computer display based on such position information.

However, Iura this differs from the claims in that Iura does not disclose utilizing at least *two cameras* at respective corners of a display, extracting, based on outputs from the at least two cameras, a predetermined object from an image *when the predetermined object is within a predetermined distance from the plane of the display*, and then based on the detected position of the object calculating *an angle of view of each of the at least two cameras, and then calculating coordinates from the angles*.

Moreover, no teachings in Ogawa cure the deficiencies in Iura. Ogawa discloses a light stylus pen (light emitting pen) for emitting a light, a lens group that collimates a field of view of a detecting unit for detecting a light along a coordinate plane, and a shield member provided around the coordinate plane to cover the field of view of the coordinate plane. Ogawa also discloses a method of detecting a position of an object by detecting a light emitted from a light stylus pen by a detecting unit.

However, Ogawa is similarly deficient as in Iura in that Ogawa also does not disclose or suggest providing at least two cameras at respective corners of a display, detecting, based on outputs from the at least two cameras, a position of a predetermined object while the predetermined object is determined to be within a predetermined distance from the plane, and then based on the detected position of the predetermined object calculating angles of views of each of the at least two cameras to the detected position, and then detecting coordinates of the object utilizing the calculated angles. Thus, Ogawa does not cure the deficiencies in Iura.

Applicants also note Ogawa requires a specially devised pen such as a light stylus pen for inputting information, and in that sense Ogawa is similar to devices discussed in the “Background” section in the present specification.

The claimed invention provides an improvement in not requiring a specially designed device for inputting coordinate data. Instead, in the claimed invention any object such as a ball point pen, finger, pointer, etc., can indicate a position of the object.

In such ways applicants submit no combination of teachings of Iura and Ogawa fully meets the limitations recited in the claims.

Applicants also submit one of ordinary skill in the art would not and could not have combined such reference teachings to meet the claimed limitations.

In that respect, applicants note Iura is directed to a different type of device than in the claimed invention. As shown for example in Figure 2 Iura mounts a single camera 100 at the front of a computer, and not at a corner of a display. That deficiency in Iura was recognized in the Office Action.

However, Iura also has no operation and would have no reason to determine when an object is a predetermined distance from a plane of a display. Iura utilizes the front facing camera 100 to look at the motion of a person, but in Iura a motion relative to a plane of a display is completely irrelevant. Therefore, Iura does not disclose or suggest, and actually teaches away from, detecting an object's position "while the predetermined object is within a predetermined distance from the plane" of the display.

In such ways, Iura does not teach or suggest features clarified in the claims, and actually teaches away from such features.

With respect to the above-noted recognized deficiency in Iura not disclosing a camera at a corner of a display, the outstanding Office Action cites Ogawa. However, such teachings of Ogawa are irrelevant to the device of Iura and could not have been properly combined with the teachings in Iura.

Specifically, as noted above Iura discloses the use of a front facing camera 100 on a computer. Iura requires such an operation as Iura detects how a user facing the computer is

moving. Iura could not properly make such a determination if modified by the teachings in Ogawa to utilize a camera at a corner of a display not facing outward from the computer. That is, Ogawa discloses imaging elements 3L and 3R directed along a plane of a display, not facing out of a display. Thus, modifying the teachings in Iura in view of the teachings of Ogawa would make Ogawa inoperative to be able to accurately detect a motion of a user facing a computer. Thus, one of ordinary skill in the art would not have combined the teachings of Ogawa to those of Iura in the manner suggested in the Office Action.

In view of these foregoing comments, applicants respectfully submit the claims clearly distinguish over Iura individually and further in view of Ogawa.

In view of the present response applicants respectfully submit claims 1-7 are allowable.

As no other issues are pending in this application, it is respectfully submitted that the present application is now in condition for allowance, and it is hereby respectfully requested that this case be passed to issue.

Respectfully submitted,

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